EMPLOYEE ABSENTEEISM

An abstract of a Thesis by
Jinger B. Robins
June 1981
Drake University
Advisor: Margaret E. Lloyd

The problem. Most companies provide a certain number of paid sick leave days for their employees. If employees take paid sick leave days even when they aren't sick a high absenteeism results. This is costly both in terms of direct sick leave payments and loss of productivity. Incentives for attendance might reduce absenteeism.

Procedure. Baseline absenteeism was determined. Next, a bonus of $20 was made available for perfect monthly attendance. Finally employees were offered a choice of incentives for attendance.

Findings. The percent of absences decreased with the introduction of both the bonus and the choice of incentives conditions.

Conclusion. Incentives for attendance significantly decreased absenteeism. Reduced costs for paid sick leave days also occurred.

Recommendations. Incentives for attendance should be implemented in settings where employee absenteeism is high.

EMPLOYEE ABSENTEEISM

A Thesis

Presented to

The School of Graduate Studies

Drake University

In Partial Fulfillment

of the Requirements for the Degree

Master of Arts

---

by

Jinger B. Robins

June 1981

EMPLOYEE ABSENTEEISM

by

Jinger B. Robins

Approved by Committee:

Margaret E Lloyd
Chairperson

Kenneth E Lloyd

Lewis J. McMurlew

Dean of the School of Graduate Studies

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

Figure

Page

CHAPTER I

INTRODUCTION

Anecdotal information suggests that the increase in employee absenteeism has been a growing concern to employers. Absenteeism results in financial losses both because of the resultant reduction in productivity and the costs of sick leave benefits paid as wages for no work. Employee absenteeism cost business and government $15 billion in sick leave benefits, alone, in 1973 (Gemmell, 1973). A number of factors may contribute to high employee absenteeism, e.g. employees may actually be sick; they may prefer non-work activities to work activities; or they may avoid dull, repetitive jobs or unpleasant working conditions by calling in sick.

Several techniques have been used to reduce absenteeism in a variety of settings. Swimming coaches who were concerned about students' attendance at practice sessions, constructed a large waterproof display board on which swimmers indicated their attendance by entering checkmarks in the appropriate spaces. This system of publicly posting self-recorded attendance reduced absenteeism by 45% (McKenzie & Rushall, 1974).

Lottery systems have also successfully reduced

absenteeism. Employees of an electronic manufacturing firm who were present at work every day for a one-month period were allowed to place their names in a random drawing. On the last day of every month, one name was drawn to win a ten dollar cash prize. Sick leave payments decreased by 30.6% (Wallin & Johnson, 1976). In another lottery system, each employee received a playing card each day (of a 5-day work week) he or she came to work. The employee with the highest poker hand won $20.00 at the end of the week. Absenteeism was reduced by 18.27% (Pedalino & Gamboa, 1974).

Direct monetary bonuses have also been successful in reducing absenteeism. In a manufacturing company, 46 female employees who engaged in stitching and sewing operations received slips of paper every day they attended work. Five slips of paper could be exchanged for 50 cents. Absenteeism was reduced from 3.94% to 2.56% per week (Orpen, 1978).

In a large manufacturing company, a program consisting of incentives for good or improving attendance coupled with disciplinary procedures for excessive absenteeism was implemented by management in an attempt to reduce absenteeism among 7,500 union workers. Incentives for good or improving attendance consisted of: (1) freedom from the requirement to punch the time clock; (2) approved time off without pay; (3) a reduction in position on the disciplinary ladder for excessive absenteeism. The disciplinary ladder consisted of verbal warnings, written warnings and

probationary periods leading to termination of employment. An employee could be reduced from a written warning level to the lesser level of a verbal warning. Absenteeism was reduced from 7.8% during baseline to under 4% during implementation of the program (Kempen & Hall, 1977).

The present study explores the problem of employee absenteeism in a pre-school setting. The pre-school was located in a prime service area and served approximately 100 children from low income families of several ethnic backgrounds. The acquisition of federal monies for the pre-school's daily operation was based on specific teacher/child ratios. The required ratio varied according to the number and ages of children who attended the pre-school on a given day. Required ratios are shown in Table 1. The actual teacher/child ratio varied daily depending upon the number of teacher absences as well as the attendance of the children. Representatives of the federal government would occasionally make spot checks to see if required teacher/child ratios were being met. The pre-school's administration had become concerned with the frequency of employee absenteeism when it found that teacher/child ratios were not being met. Inadequate ratios would both reduce federal grant monies and prevent the pre-school from acquiring a state license. The funding situation did not allow the pre-school administration to hire substitute employees when permanent employees were absent.

Table 1

Required Teacher/Child Ratios for each Age Group of Children

Age Group	Number of Children	Required Number of Staff
2	4	1
3	6	1
4	7	1
5-6	8	1

Several factors at the pre-school may have contributed to absenteeism. One factor was low salaries. Throughout the study salaries ranged from $3,100 to $11,800 per year depending upon an employee's education and experience. Certified teachers at the top of the pre-school's salary scale often made $3,000 less per year than certified teachers in the public school system. Employees may have felt that, since their salaries were so low, taking sick leave when they were not really sick was justified.

A second possible contributing factor was the difficult working conditions. The pre-school was housed in an old church. Dividers such as desks and children's lockers were used to separate the different age groups from one another which resulted in a noise problem. The building was not air-conditioned and temperatures in the summer would often reach 100° indoors. In the winter, the heating system was controlled by the landlord and was never properly regulated. Employees may have found working conditions so aversive that they preferred staying home.

A third possible factor contributing to employee absenteeism was a process referred to as "pooling". Groups at the pre-school consisted of 15 to 30 children, one head teacher, one assistant teacher and one or more aides depending on ratio requirements. If an absence occurred in a group, in order to maintain required teacher/child ratios, another employee was pulled from his or her job, e.g.

cooking, to work with that group. The absence of even one employee resulted in important jobs being left undone, additional stress and in over-worked employees.

A fourth possible factor contributing to employee absenteeism was the health condition of the children and, consequently, of the employees. Contagious illnesses and parasites were often present at the pre-school, e.g. body lice, head lice, ringworm, chicken pox and/or the measles. Infected children would often come into contact with employees before the nurse had an opportunity to conduct her daily inspection of the children. Employees may have been sick more often than they would have been had they been working in another environment. However, the pre-school's administration felt that most absenteeism was caused by the aversiveness of unpleasant working conditions, low salaries and pooling rather than by actual sickness.

CHAPTER II

METHOD

Subjects

Employees of the Child Development Care Center, Inc., located in Des Moines, Iowa, participated in this study. At the beginning of the study the employees consisted of one male and eight females ranging in age from 18 years to 60 years old. Employees came and went over the course of the study, there were never less than nine employees nor more than sixteen. Positions held by the employees consisted of head teachers, assistant teachers, aides, cooks and assistant cooks.

Absentee Policy

Each employee accumulated 1.25 sick leave days in his or her sick leave account each month. If an employee was absent for a day (and had an accumulation of days in the sick leave account) he or she was paid for that day and one day was deducted from the total in the account. Employees were not paid when they were absent if they did not have any days in their accounts. No more than 15 sick leave days could be accumulated per year and no more than 30 sick leave days could be accumulated at any time during an employee's total length of employment. Employees were told periodically

by the administrator, on both an individual and group basis, that their rates of absenteeism would be reviewed when merit raises were determined. Other leave consisted of 3.33 days per year for funeral leave and 5 to 20 days per year for vacation depending upon the length of service.

Observation and Recording

An absence was defined as four or more consecutive hours missed in any one eight hour day. The number of absences for each employee and whether the absence was paid or unpaid was recorded by the experimenter from daily sign-in sheets. The annual salary of each employee was recorded by the experimenter from payroll records.

Reliability

A second observer counted the number of absences per employee in each 3 month period. An agreement was scored when both observers recorded the same number of absences. Reliability was calculated by dividing number of agreements by the sum of agreements and disagreements and multiplying by 100 percent. Reliability was 100% for the 17 reliability observations made

Procedures

Baseline. The pre-school's established absentee policy was in effect from January 1977 through August 1979.

Bonus Program. Employees were asked what incentives might be effective in reducing their absenteeism. They

suggested days off, bonuses and earning special items, e.g. T-shirts, pop, etc. The administration chose to use bonuses. All permanent employees were eligible for the bonus program if they had a minimum of five days accumulated in their sick leave accounts and indicated their desire to participate in writing. This minimum was established to safeguard employees against not receiving sick leave pay for an actual illness. A participating employee who had no absences for a full calendar month received an extra $20.00 instead of accumulating 1.25 sick leave days in his or her sick leave account. Since the average monthly salary after taxes was $458.00 (block 10), $20.00 was thought to be a substantial bonus. Any participating employee who was absent during the month did not receive $20.00 but accumulated 1.25 sick leave days instead. Initially employees were allowed to go on or off the program every month. In order to avoid administrative problems this was changed to every three months. With the exception of block 11 (September 1979), employees could elect to join the bonus program or to remove themselves from the program at designated four times during the year, i.e. every three months beginning in October. This condition was in effect for 13 months.

Choice Program. In the second experimental condition the administration provided several incentives from which eligible employees who indicated their desire to participate

could choose. A different choice could be made at the beginning of each 3-month period. Employees could choose to:

1. receive a $20.00 payment each month without an absence
2. take one day off following a month without an absence
3. receive a lump sum payment of $75.00 at the end of three months without any absences.
4. take three days off all at once following three months without any absences
5. choose one of the three alternatives below for each month without an absence (employees had to specify which alternative they wanted for each month of the three-month period)

   one T-shirt with the name and address of the pre-school on it

   one lunch at a restaurant with the Director

   one month's supply of pop in the employee's choice of flavors, two per day

Any participating employee who was absent during a month did not receive the incentive but accumulated 1.25 sick leave days. Employees had the opportunity to remove themselves from the program once every three months. Experimental condition two was in effect for a period of six months.

Experimental Design. The experimental design was a simple time series, ABC design, which was also a multiple baseline across employees since employees opted to participate in the program at various times.

CHAPTER III

RESULTS

The percent of work days each employee was absent during blocks of time was calculated by dividing the number of absences by the number of available working days. All blocks, except block 11, span 3 calendar months. Block 11 represents one month. These data are shown for employees 1-8 in Figure 1 and for employees 9-16 in Figure 2. Considerable variability occurred during baseline both within and between employees. Some employees (employees 5 and 6) were absent as much as 15% of the time (about 3 days per month) in some three month blocks and as little as 0% of the time in others. Other employees' absences were less variable, for example, employee 11 was absent from 2% to 3% of the time (about .7 days per month), employee 4 was absent from 0% to 3% of the time and employee 8 was never absent. Some employees were absent much more than others, for example the mean percent of absences in baseline for employee 5, 14, 6 and 13 was 9%, 9%, 6% and 6% respectively; while the mean percent of absences for employees 1, 4 and 12 was 2%, 1% and 1% respectively. Figure 3 shows that the mean percent of absences over all employees in baseline was 4%.

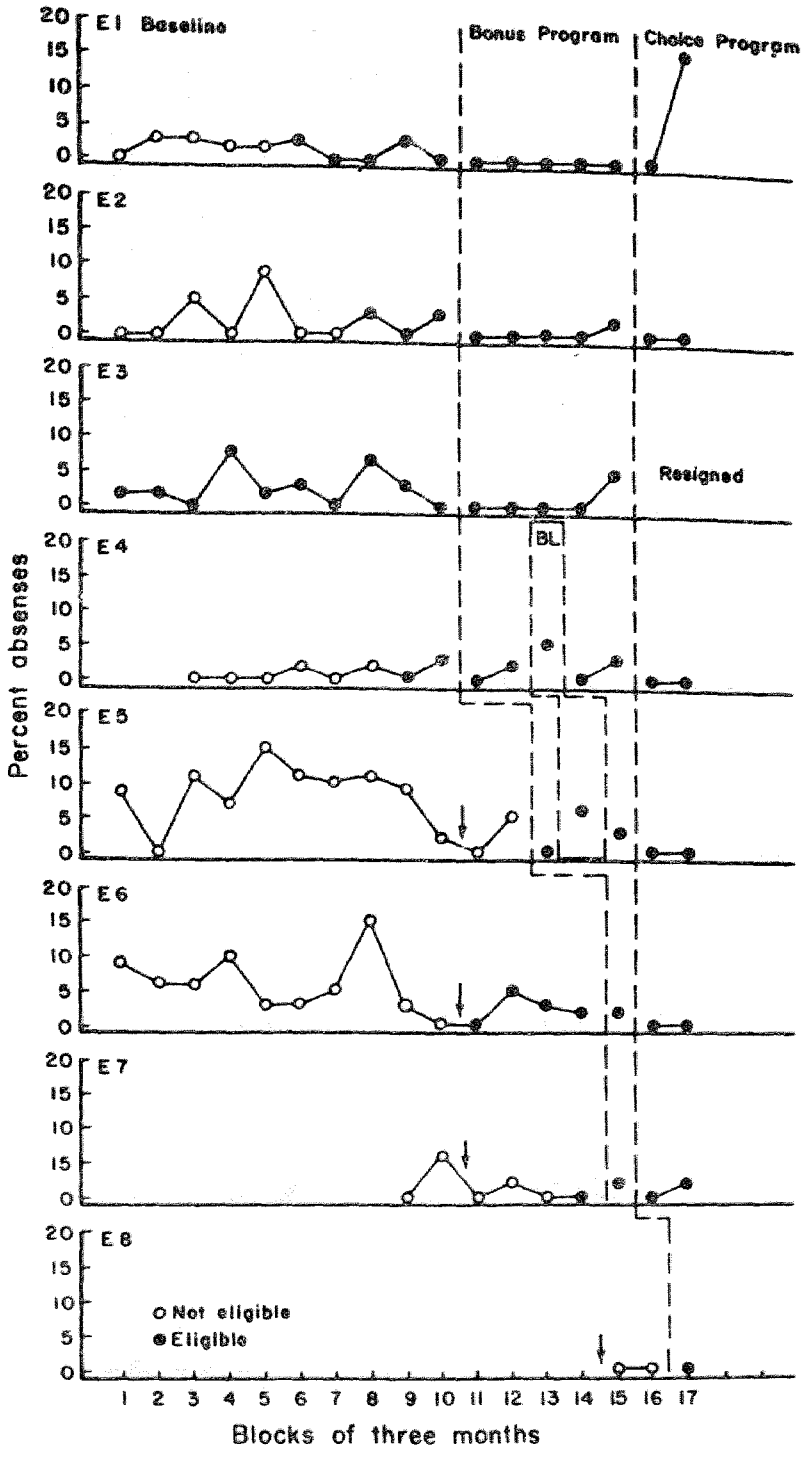

Figure 1. The percent of absences for employees 1-8 during baseline and when each chose to go on the bonus pay and/or choice of incentives programs. Arrows indicate when employees were informed that the program was available. All blocks, except block 11, span 3 calendar months. Block 11 represents 1 month.

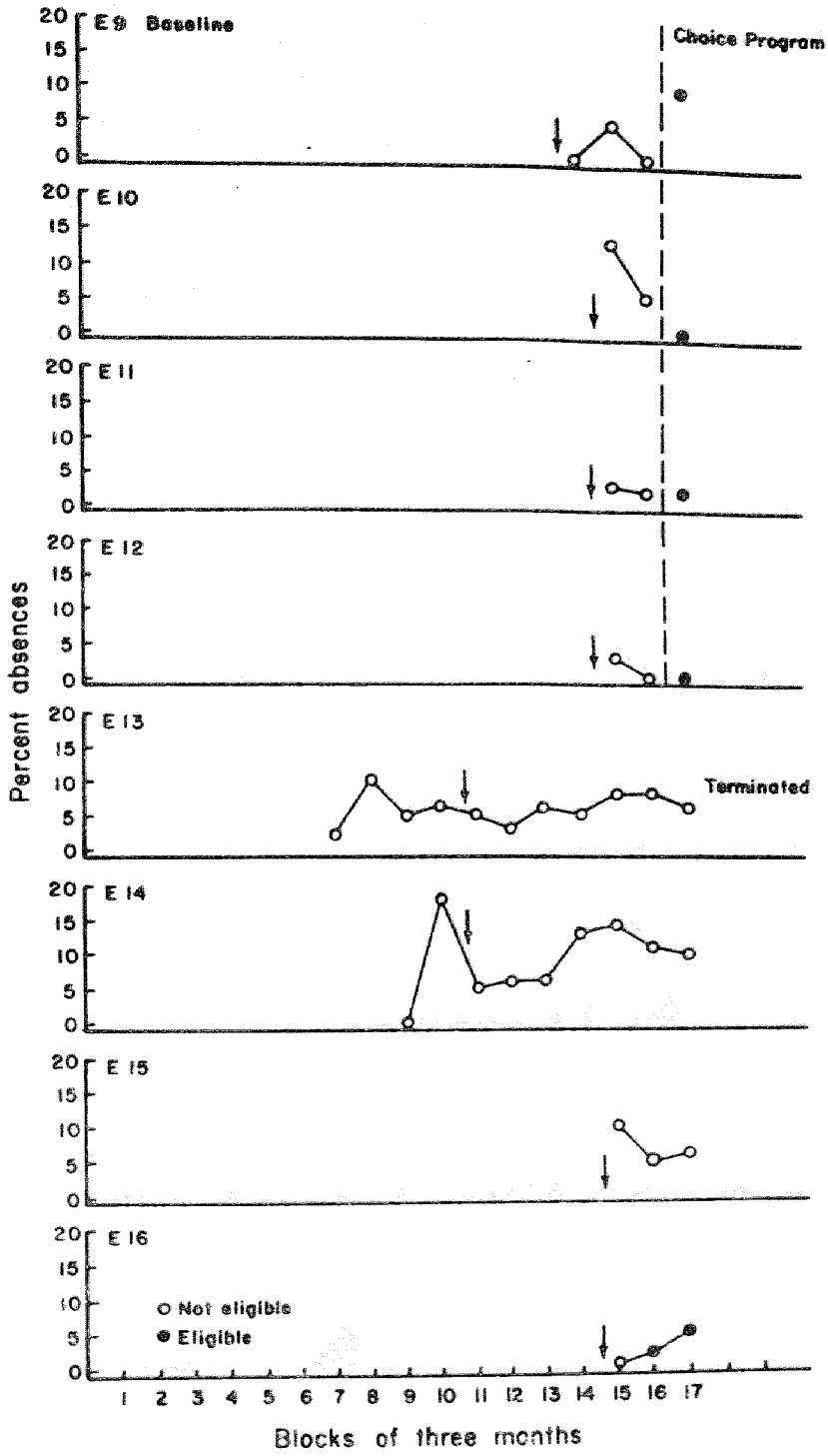

Figure 2. The percent of absences for employees 9-16 during baseline and when each chose to go on the bonus pay and/or choice of incentives programs. Arrows indicate when employees were informed that the program was available. All blocks, except block 11, span 3 calendar months. Block 11 represents 1 month.

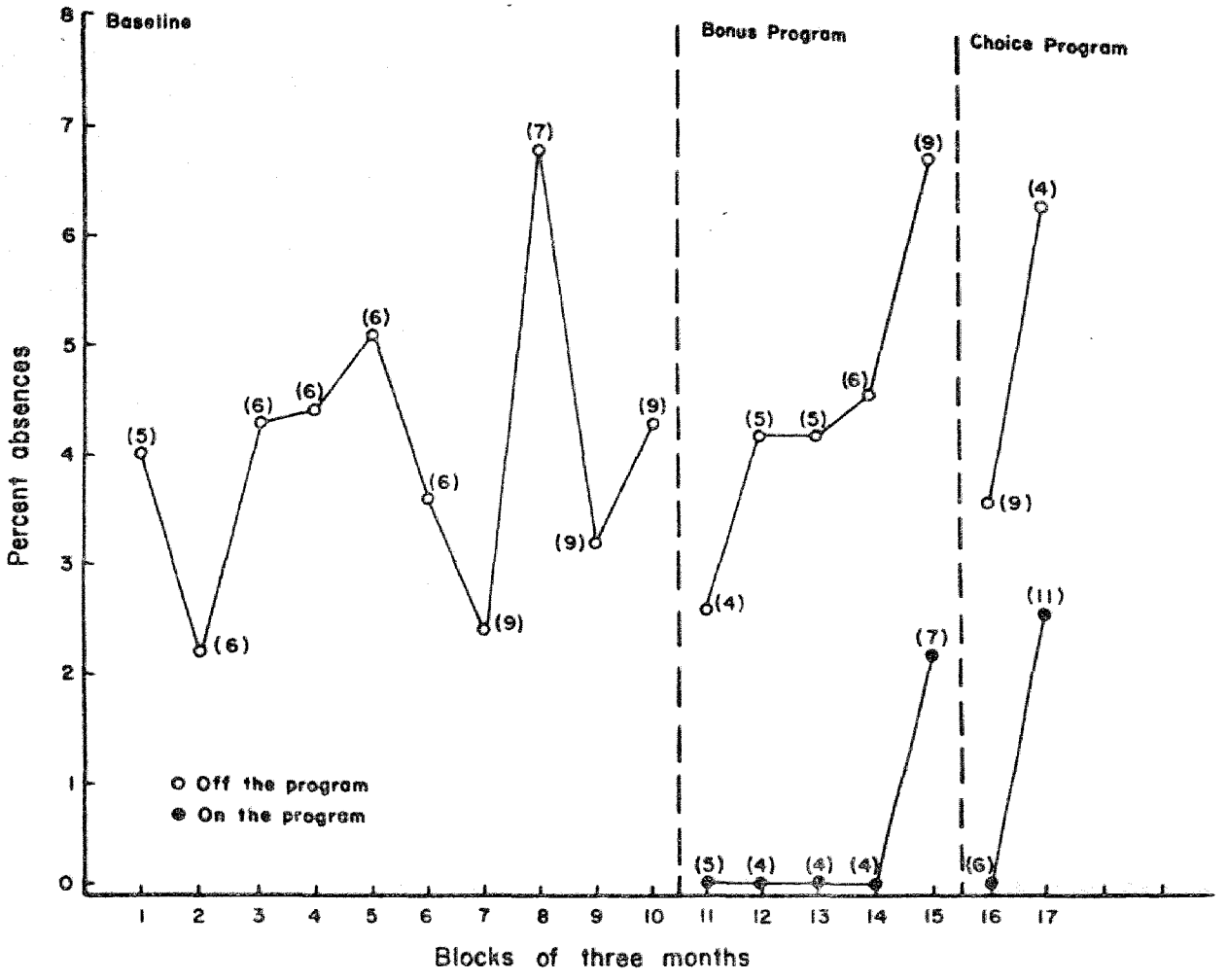

Figure 3. The percent of absences for all employees during baseline and the percent of absences for employees on and off the program during bonus pay and choice of incentives programs. All blocks, except block 11, span 3 calendar months. Block 11 represents 1 month. The number of employees in a given program is indicated in parentheses.

When the bonus program was implemented, only employees 1, 2, 3 and 4 were eligible to join and all chose to go on the program. Their mean baseline absences were 1.6%, 2%, 2.7% and .88% respectively. Absences immediately decreased to 0%. Absences for employee 1 remained at 0% for 13 months and absences for employees 2 and 3 remained at 0% for 10 months.

Employee 4 and, later, employee 5 chose to go on, off and back on the bonus program in a design similar to a reversal design. Employee 4 was on the program during blocks 11 and 12. Absences remained at about the same low level of baseline, approximately 1.5%. When employee 4 went off the program the percent of absences increased to 5%. Absences returned to the original level when employee 4 returned to the bonus program. The mean percent of absences for employee 5 during baseline was 7.5%. Employee 5 was on the program during block 13; absences decreased to 0%. When employee 5 went off the program the percent of absences returned to 6%. Absences decreased to 3% when employee 5 returned to the bonus program. Figure 3 shows the percent of absences for employees on the bonus program remained at 0% for 4 consecutive blocks and then increased to 2.2% in block 15 while the percent of absences for employees off the bonus program, i.e. still in baseline, steadily increased from 2.6% in the 11th block to 6.7% in the 15th block.

When the choice of incentives program was implemented,

employees 1, 2, 3, 4, 5, 6, 7 and 16 were eligible to join; all but 3 and 16 went on the program. Employee 3 resigned from work and employee 16 chose not to go on the program. Absences decreased to 0% for employees 2, 4, 5 and 6 and remained at 0% for the 6 months the program was available. The percent of absences for employee 7 and 1 was 0% during the first three months of the program, but increased during the second three months (block 17) to 2% and 16% respectively.

Employees 8, 9, 10, 11 and 12 chose to go on the choice program as soon as they were eligible (block 17). The percent of absences for employees 8, 10 and 12 was 0% during block 17. The percent of absences for employees 9 and 11 was 10% and 2% respectively during block 17. Employees 13, 14 and 15 never became eligible for the program. Employee 16 never chose to go on the program even though she was eligible. Figure 3 shows the percent of absences for all employees who were in the choice program was 0% in block 16 and 2.6% in block 17. The percent of absences for employees off the program, i.e. still in baseline, was 3.6% in block 16 and 6.4% in block 17. These functions are essentially parallel with a mean difference of 3.7%.

Table 2 shows the alternatives chosen by employees in the choice of incentives program. During block 16, employee 3 chose the $20 incentive and employees 1, 2, 4, 5, 6 and 7 chose the $75 lump sum. During block 17, employees 2 and 6

Table 2

Alternatives Chosen by Employees During the Choice of Incentives Program for each Three Month Block

Option	Block 16	Block 17
$20 payment	Employee 3	Employee 2, 6, 9, 10, 11
1 day off after month		
$75 after 3 months	Employee 1, 2, 4, 5, 6, 7	Employee 1, 5, 7, 8
3 days off after 3 months		Employee 12
choice of 3 alternatives		Employee 4

changed from the $75 lump sum to $20; employee 4 changed from the $75 lump sum to the choice of three alternatives, employee 12 chose 3 days off, and employees 1, 5 and 7 remained with the $75 lump sum. Sixteen (out of 18) choices were for money incentives and ten of those choices were for the higher-risk higher-pay-off incentive, which required 3 months of perfect attendance.

The average number of days worked per sick leave day taken was plotted for employees on and off the program. This was calculated by dividing the number of days worked by the number of absences for all employees and dividing the total by the number of employees. If an employee had taken a sick leave day each time he or she had accumulated one; he or she would have taken one sick leave day every seventeen days. Figure 4 indicates that employees on the program worked more days per sick leave day taken than employees off the program throughout both the bonus and choice programs. The mean days worked per sick leave day taken for employees on the program was 58 during the bonus program and 56 during the choice program. The mean days worked per sick leave day taken for employees off the program was 32 during the bonus program and was 34 during the choice program.

The total percent of absences for all employees combined was calculated by totaling the number of absences and dividing by the total possible work days. Figure 5 shows the total percent of absences during baseline ranged from

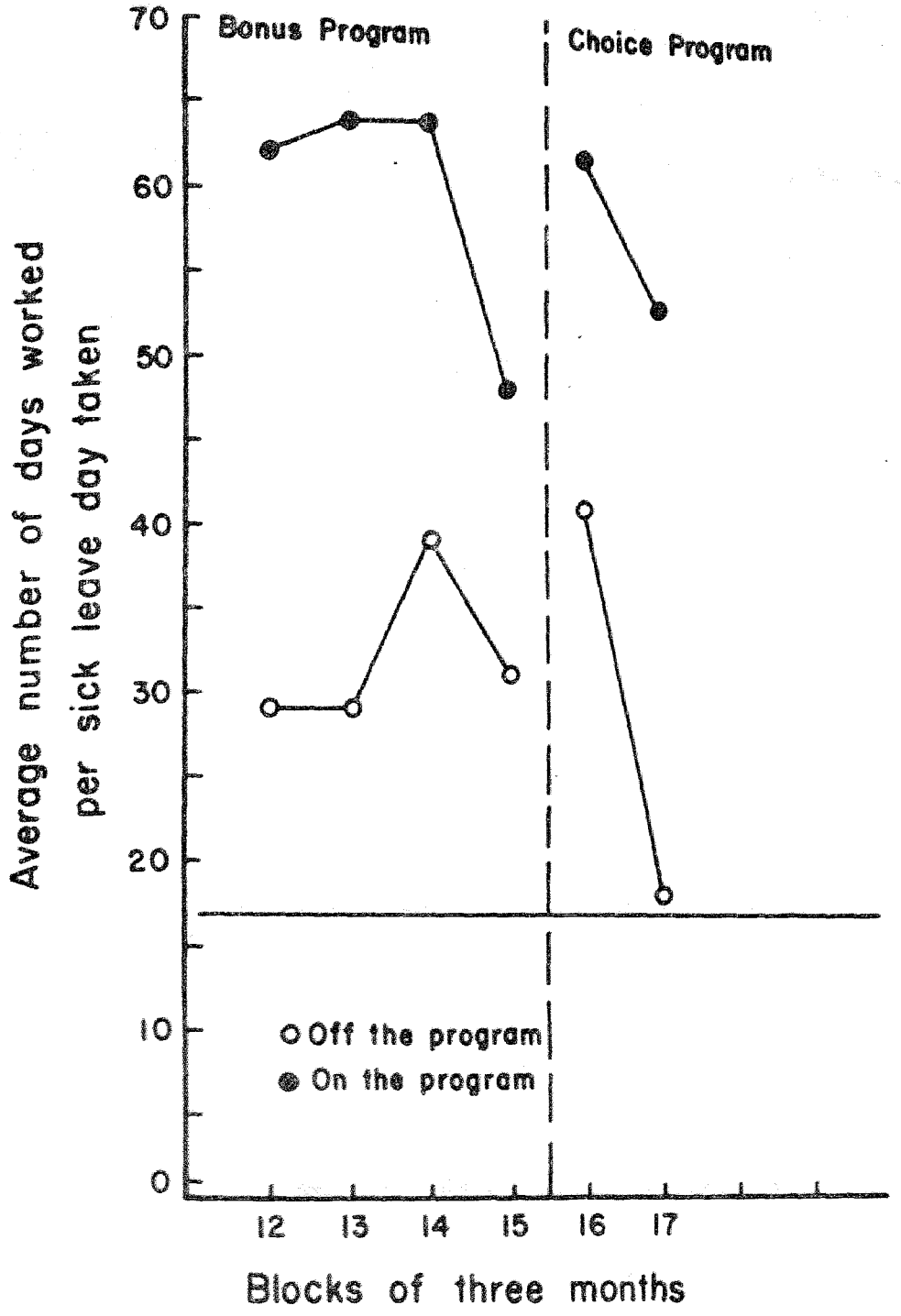

Figure 4. The average number of days worked per sick leave day taken for employees on and off the programs during the bonus pay and choice of incentives programs. All blocks represent 3 calendar months. The solid line represents the number of days worked per sick leave day taken if an employee took a sick leave day every time he or she earned one.

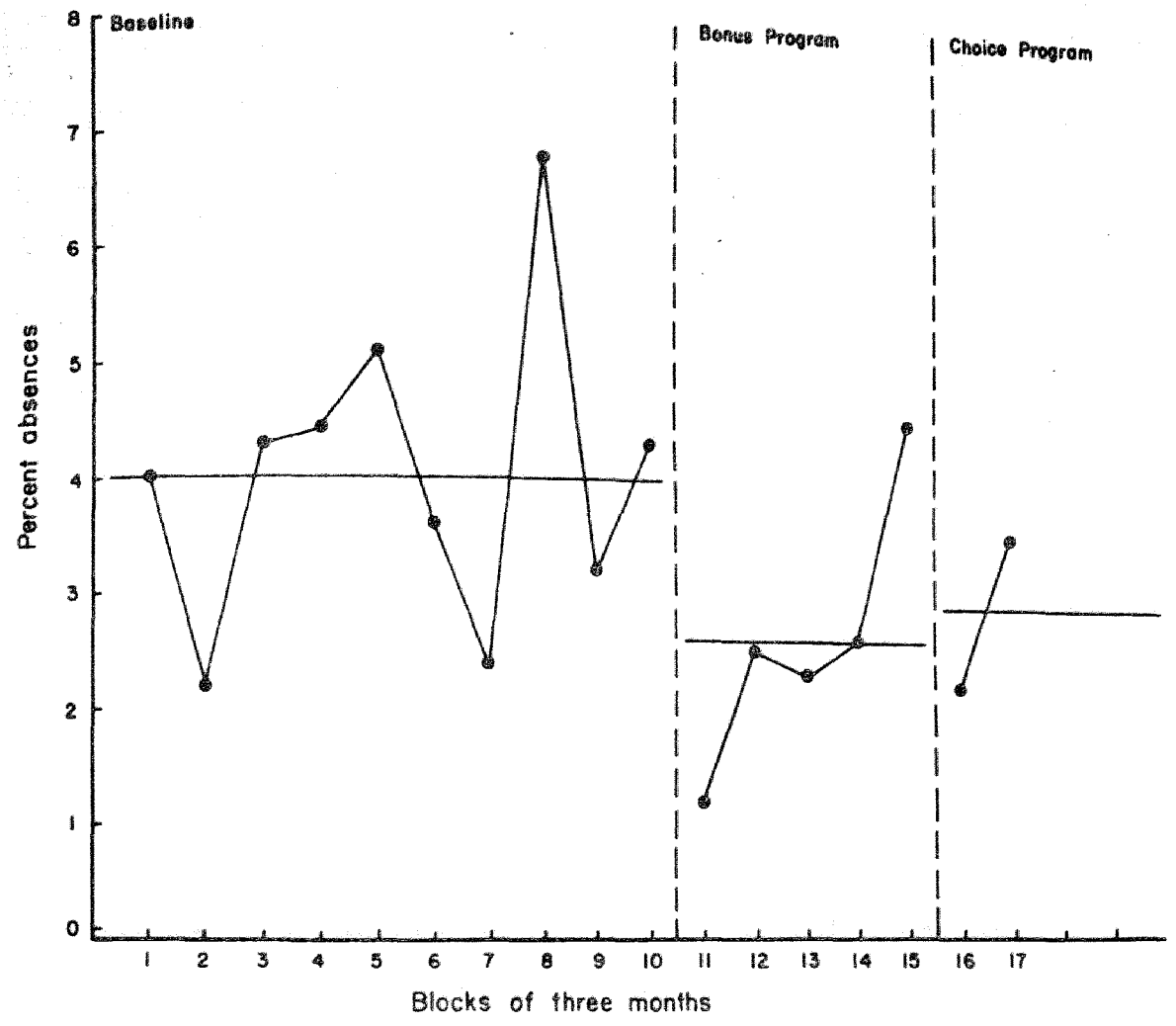

Figure 5. The total percent of absences for all employees during baseline and when the bonus pay and choice of incentives programs were available. All blocks, except block 11, span 3 calendar months. Block 11 represents 1 month.

2.2% to 6.3% with a mean of 4%. When the bonus pay program was available absences ranged from 1.2% to 4.5% with a mean of 2.6%. When the choice of incentives program was available absences ranged from 2.2% to 3.5% with a mean of 2.9%. Overall absenteeism decreased with the introduction of both the bonus and choice programs even though not all employees chose to go on the incentives programs.

The upper portion of Figure 6 shows the average annual salary of employees over three month blocks. The average annual salary was calculated by totaling the annual salaries of all employees working in a given 3 month block and dividing by the number of employees. The average annual salary steadily increased from $5,300 to $8,900 over the period of this study. The increase reflected both inflation and the fact that proportionally more certified teachers were hired (rather than teacher assistants or aides) in the last months of the study.

The middle portion of Figure 6 shows the mean cost of absenteeism for each employee. In baseline this was calculated by first dividing each employee's annual salary by the number of working days per year to arrive at a daily pay rate. Next, the number of paid absences for each employee was multiplied by his or her daily pay rate. Finally, the total daily pay rates were divided by the number of employees and plotted for each three month block during baseline giving the mean cost of sick leave payments

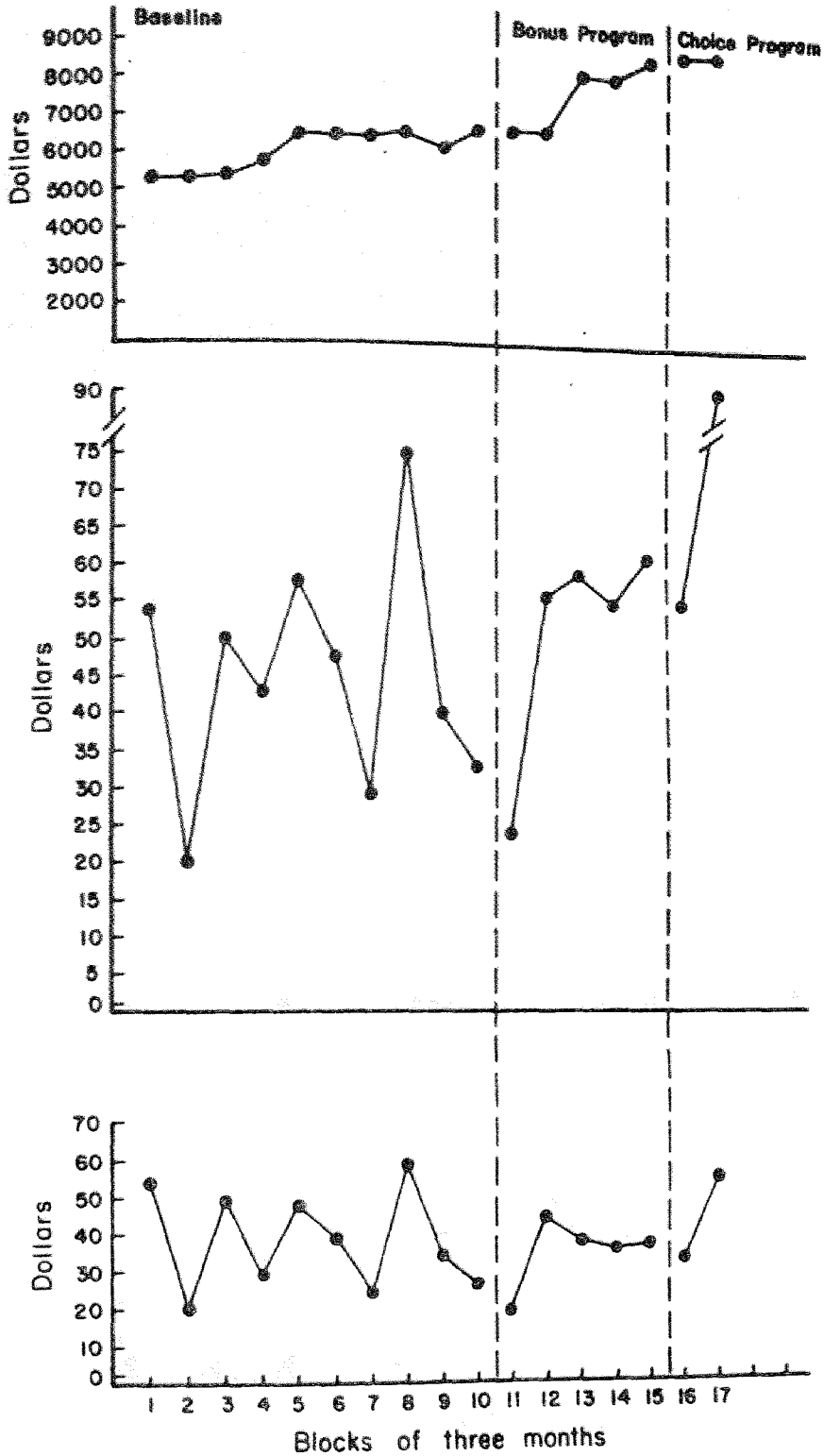

Figure 6. The upper panel represents the average annual salary during baseline and when the bonus pay and choice of incentives programs were available. The middle panel represents the mean actual cost of sick leave paid to each employee during baseline and the mean actual cost of sick leave plus the cost of incentives during bonus pay and choice of incentives programs. The lower panel represents those costs corrected for inflation and disproportionate hiring of high salaried employees. All blocks except block 11, span 3 calendar months. Block 11 represented 1 calendar month but was adjusted (multiplied by 3) so as to represent a 3 month block.

made to each employee. During bonus pay and choice programs the mean sick leave payments plus the mean cost of incentives (e.g. $20, $75, cost of pop) were plotted for each three month block. The mean cost of absenteeism increased from $54 in block 1 to $92 in block 17.

The bottom portion of Figure 6 shows the mean cost of absenteeism for each employee corrected for inflation and the disproportionate hiring of high salaried employees. During baseline this was calculated by dividing the beginning average annual salary ($5,300) by the average annual salary for each three month block and then multiplying this percent by the actual mean costs of absences per employee for each three month block. During bonus pay and choice programs this was calculated by adding the mean cost of absenteeism for each employee to the cost of incentives and dividing by the number of employees for each three month block. The corrected costs were fairly stable across all conditions. The mean was $41 while the costs ranged from $20 in block 11 to $66 in block 17.

The top portion of Figure 7 shows the average number of employees on the payroll for each 3 month block. This was calculated by totaling the number of employees on payroll for each 3 month block and dividing by 3. The average number of employees on payroll was fairly stable across all conditions. The mean was 19 while the average number of employees ranged from 18 in blocks 1, 3, 4, 7, 8, 9 and 11

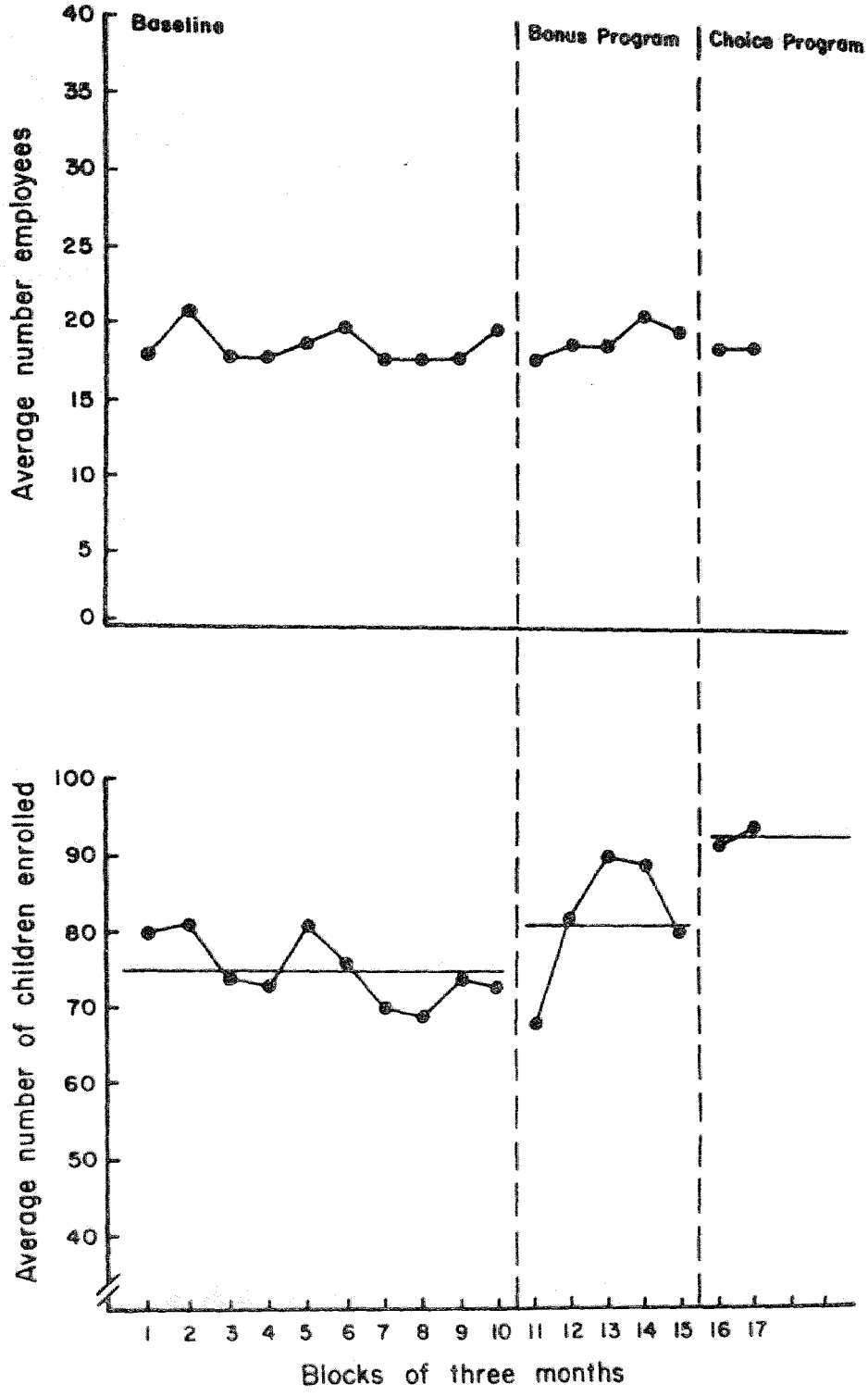

Figure 7. The upper panel represents the average number of employees on payroll. The bottom panel represents the mean daily enrollment of children. All blocks, except block 11, span 3 calendar months. Block 11 represents 1 calendar month.

to 21 in blocks 2 and 14.

The bottom portion of Figure 7 shows the mean daily enrollment of children for each 3 month block. This was calculated by totaling the mean daily enrollment of children for each 3 month block and dividing by 3. The mean daily enrollment of children increased with the introduction of both the bonus pay and choice programs. The average daily enrollment was 75.1 in baseline, 81.8 in the bonus pay program and 93 in the choice program. Blocks 2, 7 and 15 (Figure 7) include the month of September. Block 11 represents the month of September only. During September the pre-school loses a large number of kindergarten children due to their entering the first grade. Actual teacher/child ratios were not plotted due to the difficulty in obtaining the actual and required ratios for each day. Each age group required a different ratio and children arrived at and left the pre-school at different times during the day.

CHAPTER IV

DISCUSSION

Whether the bonus and choice of incentives programs were effective in reducing absenteeism was not fully verified in this study because the basic experimental design was a simple time series. However, four facts suggest that the bonus and choice programs did produce a change in employee behavior: (1) in terms of a multiple baseline across employees, most employees' absenteeism decreased at the time they chose to go on a program; (2) the data of employees 4 and 5 provided a successful reversal design; (3) employees on the program consistently had less absenteeism than employees off the program; and (4) overall absenteeism decreased when the incentive programs were available even though employees had to be absent less in the preceding baseline block in order to become eligible for an incentive program. For instance employees who did not have an accumulation of five sick leave days in their sick leave account had to first accumulate those days before they could participate in an incentive program.

Offering employees a number of incentives from which to choose is analogous to a reinforcer menu or a token store, i.e. it draws on the theory of generalized

conditioned reinforcement. Employees could choose the incentive (e.g. $20, a T-shirt, a day off) most appropriate to their current deprivation. It is difficult to tell whether the choice of incentives program reduced absenteeism in this particular setting any further than no choice $20 bonus program. Since most employees preferred monetary incentives (16 of 18 choices) providing a range of non-monetary incentives may have been unnecessary.

Most incentive programs for reducing absenteeism have required participation by all employees. One problem with mandatory participation is the reluctance of employee unions to allow incentive programs because of the possibility of their interference with contract negotiations (Pedalino & Gamboa, 1974). Another problem is the possibility of employee resentment of forced participation which could result in various emotional behaviors. The implementation of voluntary programs could avoid both these problems. The voluntary program described here appeared to reduce absenteeism even though not all employees chose to be on the program all the time.

Absenteeism costs employers both in sick leave payments and in loss of productivity. When costs were corrected for inflation and the disproportionate hiring of high salaried employees, the cost of absenteeism remained fairly constant throughout all conditions. The additional costs of incentives must have been balanced out by the reduced number of

sick leave days taken. More importantly, productivity increased. The average number of employees on the payroll remained fairly constant throughout the study but since employee absenteeism decreased, overall teacher/child ratios were better, the renewal of a state license was possible, the allocation of federal monies was continued and more children were enrolled in the pre-school.

REFERENCES

Gemmell, J. Personnel and line management: Partners in absentee control. Personnel Journal, February 1973, 113-115.

Kempen, W., & Hall, V. R. Reduction of industrial absenteeism: Results of a behavioral approach. Journal of Organizational Behavior Management, 1977, 1, 1-21.

McKenzie, L., & Rushall, B. S. Effects of self-recording on attendance and performance in a competitive swimming training environment. Journal of Applied Behavior Analysis, 1974, 7, 199-206.

Orpen, C. Effects of bonuses for attendance on the absenteeism of industrial workers. Journal of Organizational Behavior Management, 1978, 1, 118-124.

Pedalino, E., & Gamboa, V. U. Behavior modification and absenteeism: Intervention in one industrial setting. Journal of Applied Psychology, 1974, 59, 694-698.

Wallin, J. A., & Johnson, R. D. The positive reinforcement approach to controlling employee absenteeism. Personnel Journal, August 1976, 390-392.